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TOMATO RUST

By O. F. Burger

The tomato crops of Florida have been attacked from time to time by a disease which is called in different localities and by different growers, tomato rust, tomato blight, tomato leaf blight, or tomato black spot. This disease should not be confused with fungus blight, or with the bacterial blight of tomatoes, neither of which can be successfully controlled by Bordeaux mixture. Rust causes more or less damage t othe crops, mainly according to the local climatic conditions. In some years the only evidence of the disease may be a few dried leaves on the tomato plants, while in other years all the leaves are destroyed and the tomato fruits are much spotted.

Symptoms of the Disease

Sometimes the tips of the leaves become brown and dried, the rest of the leaf blades remaining green, or becoming more or less spotted with brown. At other times small brown spots appear at once on many of the leaves, and spread rapidly so as to destroy the whole of these leaves. The stems and fruits usually remain green after all the leaves have been destroyed. In advanced stages of the disease the tomato stems and fruits are affected, as well as the leaves. The stems become spotted with brown spots, which frequently grow together, forming a brown crust. Brown circular spots appear on the fruits. These spots often make their appearance after the fruit has been picked and packed. When such tomatoes arrive at the market they are sold as inferior fruit, or thrown away.

Preventive Measures

The disease can be successfully controlled by spraying the tomato plants with Bordeaux mixture. Bordeaux mixture is made of quicklime and bluestone (copper sulphate). Three pounds of copper sulphate and three pounds of quicklime in fifty gallons of water have been found sufficiently strong to prevent rust. If properly made, it may be used as strong as six pounds of

copper sulphate and six pounds of quicklime to fifty gallons of water, without scalding the plants.

Bordeaux mixture is not a cure, but a preventive. It will not cure an infected leaf, but if it is applied to a healthy leaf in such a manner that the whole surface is covered with a film of the mixture it is impossible for it to become infected.

It is best to commence spraying while the plants are in the seed bed. They should receive two or three good sprayings before being taken to the field. The disease does not prove destructive with sufficient regularity to warrant spraying every year; but we should always be ready for it. When the plants in the field show symptoms of the disease we should be prepared to spray them thoroughly at once. Two or three sprayings at least are required to get the disease under control. The disease depends a great deal on weather conditions. The grower cannot foretell the weather conditions, so preparations should be made to ensure against loss from this disease.

Cause of the Disease

Tomato rust is caused by a fungus called Alternaria solani. This fungus is propagated by small brown club-shaped bodies, known as spores. The spores are so small that they can be seen only by the aid of a microscope. They are carried by the wind from one plant to another. The spore lodges on the upper side of the leaf, and, if there is enough moisture, it will germinate. A small tube grows out from the spore, penetrates the skin of the leaf, and kills and feeds on the leaf tissue, causing a dead brown spot.

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